

National Aeronautics and Space Administration



# Roundup

LYNDON B. JOHNSON SPACE CENTER

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Mission possible: Lead human exploration



# Guest Column



NASA/PHOTO ISS030-E-185321

## On the cover:

*Moscow, Russia, appears at the center of this nighttime image taken by one of the Expedition 30 crew members aboard the International Space Station, flying at an altitude of approximately 240 miles. A solar array panel for the space station is on the left side of the frame.*



NASA/STAFFORD JSC2012E040771

## Photo of the month:

*The United Kingdom's Canterbury Cathedral Boys Choir sang for a packed house of Johnson Space Center team members in the Building 3 Collaboration Center.*



NASA/PHOTO

**Ellen Ochoa**  
JSC Deputy Director

The primary goal of the Johnson Space Center Strategic Implementation Plan is to lead human exploration. The strategies listed under that goal are: exploit the International Space Station (ISS) as a cornerstone of human exploration; enable the commercialization of low-Earth orbit (LEO); and extend human exploration beyond LEO.

The SpaceX demonstration mission to the space station is scheduled and will be a major milestone for the commercialization of LEO. Through the hard work of the Commercial Orbital Transportation System (COTS) Program Office, the ISS Transportation Office and mission support organizations, we have provided the contractual mechanism and requirements to prepare for the mission and ensure the safety of station. In addition, as requested by SpaceX and the COTS Program Office, technical and operations personnel across the center have assisted in a variety of ways to increase the probability of mission success.

The launch will feature the Falcon 9 launch vehicle sending the Dragon spacecraft into orbit. Several days will be spent checking out procedures and systems, and Dragon will fly by the station at a distance of approximately 1.5 miles to validate sensors and systems necessary for a safe rendezvous and close approach. Once a successful checkout has occurred, the Mission Control Center will give a "go" for Dragon to perform the final approach. Then the station crew will use the robotic arm to grapple Dragon and berth it to the Harmony node. Dragon will stay berthed for about two weeks, during which time some supplies will be transferred, demonstrating the goal of cargo delivery. At the end of the mission, the crew will unberth Dragon, which will then prepare for re-entry and a splashdown off the coast of California.

A fully successful mission will make SpaceX the first commercial company to send a spacecraft to station, and it will be an important step toward regular cargo service to support station operations and utilization for its lifetime.

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# Shuttle artifacts **depart** for new missions



By Rachel Kraft

**Space** Shuttle *Discovery* made her final trek on the back of NASA's Shuttle Carrier Aircraft (SCA) to a new home at the Smithsonian National Air and Space Museum's Udvar-Hazy Center in northern Virginia. Just more than 13 months after NASA's most-flown shuttle and the crew of STS-133 completed her final mission in space, *Discovery* left Kennedy Space Center on April 17 for Washington Dulles International Airport in Sterling, Va. En route, thousands caught a glimpse of the shuttle during the ferry flight over Washington, D.C.

NASA/PHOTO KSC-2012-2375



**The SCA ferrying *Discovery* bids farewell to Kennedy Space Center's Vehicle Assembly Building as it departs for the Smithsonian National Air and Space Museum.**

The Full Fuselage Trainer (FFT), NASA's full-scale orbiter mock-up without wings, was dismantled for shipping to the Seattle Museum of Flight. Since the 1970s, shuttle crews and training personnel have used the mock-up for emergency egress training and equipment and control familiarization. NASA's Super Guppy aircraft will ship pieces of the FFT during five flights. Two payload development laboratories used for space station utilization training will be moved to the area in the Space Vehicle Mockup Facility vacated by the FFT, which will provide more space in the space station training area and make room for a Node 3 mockup that will be installed in the building this summer. Room will also be reserved for future program and commercial space company mock-ups.

NASA/PHOTO 201204190014H0



***Enterprise*, left, and *Discovery* meet nose-to-nose at the beginning of a transfer ceremony at the Udvar-Hazy Center. *Enterprise* was ferried to New York in late April. In June, *Enterprise* will be barged up the Hudson River to the Intrepid Sea, Air and Space Museum.**



NASA/PHOTO 201204170045HQ

**Space Shuttle *Discovery* flies near the U.S. Capitol and Washington Monument on April 17. *Discovery* completed 39 missions, spent 365 days in space, orbited the Earth 5,830 times and traveled 148,221,675 miles.**



NASA/PHOTO JSC2012E036629

**A segment of the FFT is hoisted by crane in the Space Vehicle Mockup Facility.**



NASA/PHOTO JSC2012E041701

**The nose cone and crew compartment of the FFT are hoisted onto a truck bed on April 17.**



NASA/PHOTO 201204190001HQ

***Discovery* is suspended from a sling held by two cranes as the SCA is pushed back from underneath at Washington Dulles International Airport on April 19.**

# Mission X: Train Like an Astronaut challenge



By Neesha Hosein

PHOTO: HUMAN RESEARCH PROGRAM EDUCATION AND OUTREACH



**Mission X: Train Like an Astronaut uses the excitement of space exploration and astronaut training to challenge, inspire and educate kids to set and practice physical fitness goals and proper nutrition.**

**Mission X:** Train Like an Astronaut is an international challenge for kids that brings the excitement of space exploration to learning about living a healthy lifestyle.

This program aims to increase opportunities for children to become more physically and mentally active. Mission X uses the excitement of space exploration and astronaut training to challenge, inspire and educate kids to set physical fitness goals and practice physical fitness and proper nutrition. The children will explore mission challenges, learn the science behind nutrition and train like an astronaut.

The challenge's physical activities are modeled after the real-life training that astronauts do to prepare for exploring space. Kids experience hands-on science that relates to the needs of their bodies on Earth and the needs of an astronaut in space. The activities used in Mission X: Train Like an Astronaut were developed collaboratively with NASA, European Space Agency scientists and fitness professionals who work directly with astronauts. Although designed for 8 to 12 year olds, the challenge is for anyone and everyone who is curious about space exploration and what it takes to be an astronaut.

"The fitness challenge portion of the event finished March 16," said coordinator Yamil Garcia. "We had 15 countries and more than 10,000 children participating."

Garcia said the site's blog continues to be active, and that children are still training like an astronaut. The other activity in March for the children was a Team USA closing event broadcast from Johnson Space Center's Distance Learning Network facilities to three sites in the United States: Dunkirk and Jamestown, N.Y.; and one in Sharon, Mass.

"We are preparing a program that will salute the children's efforts, (allow them to) see Robonaut in action, have an opportunity to ask astronauts questions live on the air and see the future of human spaceflight," Garcia said. "A month later, we head to London with our friends from NASA EDGE for an international event celebrating Mission X, the Olympics and human spaceflight."

The London event is April 26 to 28. Participants include delegates from multiple countries (children, teachers, parents and other country representatives) celebrating the relationship amongst all the themes while interacting with other delegates.

"We already have eight to nine countries ready to join Mission X next year," Garcia said. "We are very excited with the future of Mission X and the positive impact on more and more children."

For more information, visit <http://www.trainlikeanastronaut.org> and <http://www.nasa.gov/offices/education/programs/national/dln/index.html>.



PHOTO: HUMAN RESEARCH PROGRAM EDUCATION AND OUTREACH

**Team USA and NASA participants applaud during a webcast. From left to right, astronaut Alvin Drew; Digital Learning Network Education Specialist and host Patricia Moore; coordinator Yamil Garcia; and astronaut Dottie Metcalf-Lindenburger.**

# Mission video **morphs** to a digital system



By Rachel Kraft

In the 1980s, space shuttle mission video was recorded on 15-pound reels and archived in storage rooms. As technologies improved, the reels reduced in size and the cataloging and archiving of mission video was eventually moved to a smaller, tape-based solution. Through an effort initiated by the International Space Station Program, the Information Resources Directorate (IRD) is on the cusp of completing a two-year project to move away from videotapes to a fully digital Information Technology-based solution for processing mission video on the ground. This endeavor also changes the way motion imagery is archived and made available to NASA users.

Ground Obsolescence Driven Avionics Redesign (GODAR) is a robust video system that will increase the capability to support motion imagery gathered during missions. The ground-based improvements are part of a larger space station program initiative to upgrade motion video imagery gathering and processing during space station expeditions, known as ODAR.



**The Information Resources Directorate works non-stop to keep Imagery Online updated with archival and current still photos and videos.**

During shuttle missions, the still and motion imagery captured by crew members was immense, but when astronauts began occupying the space station, the downlink system used for transmitting motion imagery increased exponentially.

"The amount of imagery data that must be handled is gargantuan—up to four terabytes per day in its current configuration," said Charles Boehl, IRD Multimedia Services manager for the Information Technology and Multimedia Services contract.

Other than video imagery of Earth captured while the crew sleeps or of the station's interior when an astronaut is not in the frame, nearly all motion imagery is retained forever.

"Because the current system is a video tape-based solution, it has limited scalability and high current and future costs," said IRD GODAR Project Manager Allan Stilwell. "Video tape is an obsolete media form and has much more limited long-term storage capabilities."

The cost of tapes used in the recording and archiving process

can quickly add up. Equipment manufacturers frequently update their product lines, making it more difficult, or nearly impossible, for them to service broken equipment, which puts mission video support capabilities at risk.

GODAR will also provide the ability for users behind the NASA firewall to search for video and view it at their desks through Imagery Online (IO), rather than having to request video from mission video support personnel.

"IO is available within the gates of any NASA center," said Maura White, IRD multimedia technical monitor. "You can search it, you can have password logins for restricted imagery or you can download imagery into a PowerPoint-ready size. It is a customizable website because we have so many needs."

Just over nine years ago, IO consolidated ten different NASA imagery websites and made them searchable.

"We never could put video on IO because we did not have digital



**European Space Agency astronaut Frank De Winne, Expedition 21 commander, moves a high-definition video camera and equipment from the Kibo laboratory into the Harmony node of the space station.**

video files," White said. "With the onset of ODAR, that's now possible. Users will even be able to select edit points to help identify specific segments of video."

When GODAR is complete, mission video support will increase the amount of imagery processed with the same labor by 250 percent. Old mission motion imagery will eventually be digitized, cataloged and archived into the new system, as will institutional video.

The project is a huge advancement from the earliest days of human spaceflight. During Mercury, capturing photos and video was an afterthought to launching humans into orbit. GODAR will likely go live by July and revolutionize access to mission imagery and video.

"Originally, NASA had no intention of flying a camera for the first U.S. manned mission in space," White said. "John Glenn went out and bought his own."

# MCC-21: Tomorrow starts today



By Catherine Ragin Williams

**Dreams** for the 21st century require technology for the 21st century, and Johnson Space Center's highly recognizable Mission Control Center (MCC) is no different. The MCC-21 project will catapult the symbolic nucleus of our space operations into a framework that will significantly lower the Mission Operations Directorate's (MOD's) Mission Systems operating costs; revolutionize data mobility by bringing the data to the user instead of the user to the data; and enable easy and rapid integration of new customers and new missions.



NASA/STAFFORD JS02012E039885

**A redesigned Blue FCR shows the streamlined, ergonomic MCC-21 consoles that will also usher in a new era of mission operations.**

"Over time, the control center's grown up from where we were really an isolated control center from back in the '80s going into the '90s," said MCC-21 Project Manager Rex Frazier. "That was just the heritage of how things were. And now everything's interconnected."

This evolution of MCC will culminate into ground-breaking facility mission operations by the end of Fiscal Year 2014—and NASA's new projects and programs will be along for the ride.

## Information Technology for the 21st century

The United States is no longer the only major player in the space game, with the International Space Station being a prime example of international cooperation. The interconnectivity required for global operations, however, also exposes missions to a higher Information Technology (IT) threat profile. MCC-21 hopes to address that and more with a sophisticated software overhaul.

"There are several things that we're doing that are a little bit different than what we've done in the past, and security is a big example of that," Frazier said. "A lot of that comes from the heritage from some of the DoD (Department of Defense) customers that need to be able to secure top-secret information. You end up finding a lot of correlation with that when you look at some of the safety requirements for human spaceflight."

IT has also changed from being strictly in house to being more of a partnership between MOD and the Information Resources Directorate (IRD).

"Kind of tracing with the history of the control center, back when we were doing Apollo and even getting into shuttle, we had to build a lot of the components ourselves here at JSC that go into the consoles," Frazier said. "Then as you march forward, the IT sectors just matured to the point where you don't build your own motherboards anymore, you don't build your circuits anymore. It's very commoditized, (and) IRD has all that capability just right off the shelf."

Though the control center today is seen as one big mission-critical environment, MCC-21 is working to alter it to meet futuristic demands, such as more accessibility even with increased security.

"Part of the paradigm shift for us is recognizing that we don't need to do that," Frazier said. "We can start to separate things out and really focus on the things that are truly mission critical for crew and vehicle safety, and keep those in the higher security bubble. The other items, what we're calling mission support or moderate security, we really can leverage all the agency-provided resources to reduce our cost—and that includes all the servers, racks and networking to connect all the components together and the storage component as well."

## Less is more

The current MCC doesn't support "the concept that we're bringing the data to you, versus you having to come to the data," Frazier said. "People really have to come physically into the building in order to get access to the information. With the new security model we're putting into place in the new architecture, one of those concepts is making sure we can bring the data out to where the person is in a secure fashion."



PHOTO COURTESY OF MOD

**Outfitted with its "big blues" (heritage consoles), an image of the Blue FCR before it was refurbished for the MCC-21 project.**

MCC-21 is leaving behind the former "big blues," or heritage consoles, in favor of sleek commodity consoles and a reduced hardware footprint.

With the big blues, there can be up to five CPUs on different networks with five separate keyboards and mice that team



## The Mission Operations Facilities Division MCC-21 team poses for a photo in the first flight control room renovated to showcase early elements of MCC-21.

members have to keep track of for each console. Each one enables a different task, but the tasks are isolated and can't be shared across equipment.

"Now we're going to be able to streamline that all down so you just have two CPUs and you're able to get to all the data that you need," said Systems Engineering Branch Chief Amy Melendrez. "It's also a significant lifecycle reduction in facility maintenance and operations costs."

The new system eliminates some of the difficult console management scenarios that come up when trying to move data.

"Many times they need to take data from here and get it over there, but it's not simple," Frazier said. "They have to go through a lot of manual processes in order to make that happen."

### Architecture in action

The Blue Flight Control Room (FCR) has already gone through an extensive modification process and is currently the showcase location for MCC-21.

"The Blue FCR alone was outfitted and refurbished in less than three months, which is just a tremendous amount of work, and it now provides a location for demonstrations and feedback from the flight control team," Melendrez said.

Within 11 weeks, the Blue FCR went through procurements for equipment and then getting it installed and running, thanks to what is referred to as an agile development process.

The other FCRs will go through a similar transition. FCR 1, which the station flight team operates out of, will be retrofitted in the same fashion as Blue FCR. White FCR, which used to be shuttle's room, will also get updated.

"So we'll have the two large FCRs, and then we'll have Blue FCR, which is dedicated for other programs to come in and utilize for a smaller flight team," Frazier said. "So commercial crew activities would certainly be something we could utilize it for."

### Blueprint for smart business

MCC-21 will enable an approximate 50 percent reduction in control center operations and sustaining costs with the implementation of key cost-savings initiatives, as well as simplify, automate and streamline facility functions to allow reduced manning.

And since MCC-21 also provides a rapidly reconfigurable infrastructure, it will be able to meet new customer and mission needs at minimal cost. All these benefits will help attract space business to JSC as we lead the way to destinations such as an asteroid or Mars ... with our 21st century capabilities.



**Mission Control has changed exponentially since this shot was taken of mission operations activities during the Apollo 12 lunar landing mission in 1969.**

# The (improved) show goes on

## ISS Update keeps viewers tuning in as station dives into research



By Catherine Ragin Williams

**ISS** Update has been a stable presence on NASA TV throughout the years, showcasing the operations of the orbiting laboratory as it was meticulously assembled in space. In the past, commentators from Johnson Space Center External Relations, Office of Communications and Public Affairs, would give daily reports on construction and crew activities that had occurred the day prior during each ISS Update.

But shuttle traffic has ceased, and station is now a completely

Middle School Students), we reached out to a local school that is involved in that, and the teacher and a student came into Mission Control and were interviewed by the commentator live on NASA TV," Clem said. "We also are partnering with the Education Digital Learning Network (DLN) to host DLN events from Mission Control, which they hadn't done before."

Social media has also played a vital role in connecting the general public to NASA. Using the hashtag #askStation, commentators can now solicit questions from the audience both on the @NASA\_Johnson Twitter account and the International Space Station Facebook page. Oftentimes it's a way space fans and kids can reach out to astronauts and other experts to learn more about topics of interest during the ISS Update hour.

Making ISS Update shine involves teamwork behind the scenes within JSC External Relations, from the commentators to Media Production Services to the Web team, who posts the ISS Updates to NASA.gov and the ReelNASA Youtube site for post-show viewing, so not just the NASA TV audience gets the benefit. It's a massive undertaking that appears seamless, but has made a huge difference in getting NASA's story out there to inspire the next generation of explorers.

"We produce, direct and broadcast ISS Update," said Mitch Youts, Media Production Services supervisor with the Information Technology and Multimedia Services Contract. "ISS Update is broadcast to various cable and satellite operators, as well as streamed online. The work is very similar to putting together a live newscast, which takes the entire team (live TV producers, audio engineers, videographers and video editors)."

Additional features have also helped make the show more viewer friendly.

"Recently we've really amped up our coverage," Youts said. "Rather than focus primarily on what's going on in the ISS Flight Control Room, we've added many new video packages and remote live cut-ins."

There's a lot more action these days on ISS Update. Grab a snack and watch human spaceflight's story unfold at 10 a.m. weekdays on NASA TV or at <http://www.nasa.gov/multimedia/nasatv/index.html>.

If you happen to miss it live or want to catch up, the volume of on-demand features and interviews from ISS Update is growing day by day. See recaps of ISS Update or individual features after the fact at <http://www.nasa.gov/multimedia/index.html> or <http://www.youtube.com/user/ReelNASA>.



**Charles Clendaniel (foreground), videographer with the Media Production Services team, records astronaut Dottie Metcalf-Lindenburger (left) speaking with Public Affairs Officer Brandi Dean during a taping for ISS Update.**

assembled research test bed. It was time for the show to go on, but in a different way—and with a more interactive format.

"It really changed when the resources became available from covering the shuttle missions and being able to switch over to focus on ISS Update coverage itself," said Newsroom Manager Kylie Clem.

"The new features we are including are a great way to tell the story of research going on aboard the station and on the ground, as well as other spaceflight technology being developed at JSC," said Media and Mission Support Branch Chief James Hartsfield. "We really want investigators and engineers here at JSC who have a project to contact us and let us work with them to use these features as a way to get the word out about the great work they do. Although it airs on TV first, all of this information also goes on the Internet to reach other audiences and remain available permanently."

Along with research, there was a desire to focus on those behind the scenes, like the flight control team, program personnel, engineers and scientists. Live and pre-recorded interviews happen on console or at remote locations, so experts can show-and-tell what they are working on.

"The support we've received from the center, including the ISS Program, Mission Operations and Engineering, has made the difference in enhancing the program," Hartsfield said. "Their close coordination with External Relations and recognition of the importance of communication to the public is what enables us to continue to find better ways to tell this story."

Student and public participation has boosted, too, with the new ISS Update.

"For one story we did on EarthKAM (Earth Knowledge Acquired by



**Astronaut Mike Fossum (left) and Public Affairs Officer Amiko Kauderer conduct a live segment for ISS Update in Mission Control.**

# Legend **Gene Kranz** visits White Sands Test Facility



By Cheerie R. Patneau  
NASA White Sands Test Facility

**He** still comes across as tough and competent, a hard-won effort in the difficult arena of manned spaceflight. And when he talks, people listen. Gene Kranz, NASA's Gemini, Apollo and Skylab flight director, visited White Sands Test Facility (WSTF) recently as part of the Apollo 16 40th Anniversary commemoration event. Kranz toured the facility's historical areas, looked at the Apollo command module and lunar module test articles and visited the Propulsion Test Office building, where shuttle pods are being decommissioned.

WSTF was commissioned by NASA Headquarters July 6, 1962, for the Apollo missions, and began the first engine tests on Sept. 22, 1964. Today, WSTF is a premier facility for testing propulsion systems, materials and components that are flown on spacecraft, and it

"I never wanted to have that happen again—ever," Kranz said. "It takes everyone to make a flight work. It takes everyone to bring home a flight crew safely."

Kranz is a man whose character was clearly molded by early catastrophic events: The death of a father when he was 7 years old; deaths of the Apollo 1 crew; three assassinations (President John F. Kennedy, who challenged NASA in the race to the moon; Martin Luther King Jr.; and Robert Kennedy) from 1963 to 1968; and the Apollo 13 oxygen system explosion. Kranz rose strongly and courageously to his lead position as flight director.

"Our word was law," said Kranz, the Presidential Medal of Freedom recipient.



PHOTO BY TANEXIS.

**Gene Kranz and former Apollo astronaut Charlie Duke stand in front of the WSTF lunar module prototype on display at the student rocket launch.**

provides world-class expertise in the safe handling of oxygen and hydrogen systems.

"Reminds me of a military building," Kranz said as he walked through the hallway to a meeting with WSTF Site Manager Frank Benz. Afterward he signed his famous inscription on an inner door of the pod decommissioning area: "Failure is not an option!"

A definitive life moment for Kranz and his team of flight directors were the deaths of astronauts Virgil Grissom, Edward White and Roger Chaffee in the Apollo 1 fire.



NASA/PHOTO

**Tour guide Kevin Farrah uses a small Lunar Module model to demonstrate a finer point of propulsion testing during Kranz's tour of the Propulsion Test Office. Kranz is seated in the background.**

For his Apollo 13 "return the crew safely" analysis, Kranz believed that through teamwork it was possible to bring the crew and spacecraft home.

"But there were so many different problems; it took a team of experts for each individual problem to come up with solutions," Kranz said.

The solutions included several suppositions: The crew would die of the carbon dioxide poisoning; they would freeze to death; they would use up all the available battery power; a too-steep trajectory would cause them to bounce off the Earth's atmosphere upon reentry and continuously orbit the Earth forever; and then when that trajectory was reworked, there was concern that the parachutes wouldn't open because of low batteries, and they would hit the ocean too hard.

"Then there was the announcement of a typhoon in the ocean landing area," Kranz deadpanned.

One of the most dramatic four minutes before the crew entered the Earth's atmosphere was

*(continued on page 12)*



## Spotlight: John Streeter

Producer/Director/Scriptwriter/Editor for DB Consulting Group, Inc.

PHOTO COURTESY OF JOHN STREETER



**John Streeter with his robots, in a reflective mood. Safety disclaimer: The pipe is a prop and was not lit. In no way does Streeter condone tobacco or tobacco products.**

**Q: Coolest part of working at Johnson Space Center?**

**A:** Getting to work with a great team of professionals. We have scriptwriters, a graphic artist/ animator, audio engineers, a videographer and video editors. It is a collaborative effort, and the JSC TV production team is the best group I have ever worked with. In addition, we get to meet the people who make spaceflight happen, some legends in spaceflight history and get to see a lot of space hardware. Talk about cool—my work here has allowed me to see a shuttle launch, travel to Russia and film real space station hardware and meet Mercury, Gemini, Apollo and Space Shuttle Program astronauts. The list goes on.

**Q: Favorite hobbies or interesting things you do away from the office?**

**A:** My hobbies are drawing, painting and cartooning. These days I mainly draw for my kids.

**Q: When you were a little tyke, what did you tell people you were going to be when you grew up?**

**A:** I don't recall having a vision for that as a tyke. I do recall beginning to work with a Super-8 (a format of movie film) camera around age 11, and that definitely started something.

**Q: What would people be surprised to know about you?**

**A:** I am a comic book fan AND married.

**Q: If you could trade places with any other person for a week, famous or not famous, living or dead, real or fictional, who would it be?**

**A:** Tony Stark might be fun.

**Q: What/who is your favorite sci-fi character and why?**

**A:** Dr. Who. He can travel through space and time. Opens up a lot of possibilities.

**Q: What is the best advice someone has given you?**

**A:** Never fill out a questionnaire.

**Q: What was your proudest moment?**

**A:** I have proud moments every day, watching my kids grow and learn.

**Q: What sparks your creativity?**

**A:** Watching films, reading, being around the production team at JSC.

**Q: When did you first become interested in space and why?**

**A:** I remember visiting JSC around age 5 and being very impressed with Skylab and all the spaceships on display. I have been a space fan ever since.

**Q: Describe yourself in three words.**

**A:** Creative. Dedicated. Friendly.

**Q: A huge part of your job is inspiring the general public about NASA. What inspires you about NASA that you try to convey in the videos you help produce?**

**A:** Space exploration represents the best in humankind, meeting challenges and advancing our knowledge. As a video producer, I feel there is no better topic than space. Human drama, rocket launches, other planets, giant space stations, robots ... what more can you ask for? It is watching dreams in action.

**Q: JSC turns 51 in September. Where do you hope to see NASA 50 years from now?**

**A:** I would love to see astronauts on Mars. A team at JSC has built an amazing planetary rover, and I can picture it cruising along the red landscape, kicking up dust. Also, I really feel there is so much on the moon that we have yet to discover, and I can picture NASA going back one day.

PHOTO COURTESY OF JOHN STREETER



**Streeter (foreground) in the studio with videographer Charles Clendaniel, creating stop-motion animation with puppets used in an education video.**

## WANTED!

Do you know a JSC colleague or team that does something extraordinary on or off the job? Whether it's a unique skill, interesting work, special professional accomplishment, remarkable second career, hobby or volunteerism, your nominee(s) may deserve the spotlight!

The Roundup shines the light on one special person or team each month, chosen from a cross section of the JSC workforce. To suggest "Spotlight" candidates, send your nomination to the JSC Roundup Office mailbox at [jsc-roundup@mail.nasa.gov](mailto:jsc-roundup@mail.nasa.gov). Please include contact information and a brief description of why your nominee(s) should be considered.

## Cocker Spaniel Jenny crosses off a bucket list item

**Space** Center Houston gave VIP treatment to a terminally ill cocker spaniel named Jenny on March 21.



NASA/BLAIR JSC2012E06387

**Astronaut Mike Foreman and Jenny bond inside Space Center Houston as one of the spaniel's dreams comes true.**

Karen Poe, Jenny's foster parent, created a bucket list "to make a little rescue dog's last days happy." Astronaut Mike Foreman, a veteran of STS-123 and STS-129,

came across a story about the dog in the local newspaper and was inspired to make Jenny's number one bucket list item a reality: Visit Space Center Houston and meet an astronaut.

"I read about Jenny in the Houston Chronicle," Foreman said. "I have always owned and loved dogs, and Jenny's story pulled at my heart strings. I had to reach out to her owner and meet this dog."

That day was memorable for all involved.

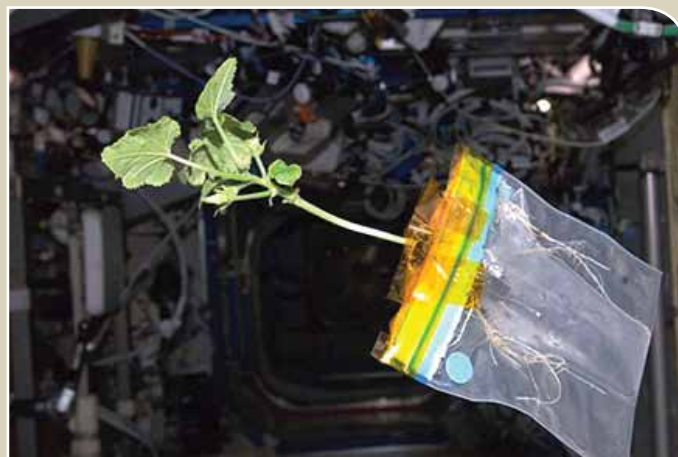
"The event was fantastic," Foreman said. "The Public Affairs offices from Johnson Space Center and Space Center Houston put the whole thing together in less than a day, and Space Center Houston absolutely rolled out the red carpet for Jenny, her owner and her support team from Cockerkids.org. Jenny had a great time!"

See the full story at JSC Features at <http://www.jsc.nasa.gov/jscfeatures/>.

## Who knew space could be so ... poetic?

*"I sprouted, thrust into this world without anyone consulting me. I am not one of the beautiful; I am not one that by any other name instills flutters in the human heart. I am the kind that makes little boys gag at the dinner table thus being sent to bed without their dessert. I am utilitarian, hearty vegetative matter that can thrive under harsh conditions. I am zucchini—and I am in space."*

- Letter to Earth by Astronaut Don Pettit



NASA/PHOTO

For more of Pettit's educational, fun and even poetic entries, go to the full list of Letters to Earth at <http://blogs.nasa.gov/cm/newui/blog/viewpostlist.jsp?blogname=letters>.

## STS Mission: Ecceda Terra

**The** Westbrook Intermediate School Band performed a special concert for JSC team members on April 5 with a piece that specially honored the Space Shuttle Program.

The band won the Texas State Honor Band competition last year. It was ranked first of all the nearly 500 intermediate school bands in its classification. As such, the band performed in San Antonio, Texas, at the Texas Music Educators Convention, an event that regularly attracts more than 20,000 attendees, on Feb. 10. This year the Vienna Boys Choir was a featured performing group along with the Westbrook

Intermediate School Band.

"We commissioned composer Christopher Tucker to write a new piece of music for our band to perform," said Rick Brockway, band director. "Mr. Tucker is a popular composer for band. His music is tuneful and his orchestration colorful, making him ideal for young musicians. We asked Mr. Tucker for a work that would celebrate the 30 years of the space shuttle; reflecting upon both its successes and paying respect to those brave men and women who lost their lives in the pursuit of human spaceflight."



PHOTO COURTESY OF RICK BROCKWAY

**The Westbrook Intermediate School Band poses with the shuttle mock-up in the Space Vehicle Mockup Facility.**

## Roundup

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caused by the new trajectory developed by Kranz's team.

"Normally, it takes three minutes before radio re-contact," Kranz said. "This one took four minutes because of our re-calculations."

Kranz said of the tradition to light up celebratory cigars after a successful mission, "It was the sweetest victory smoke ever."

After Kranz's talk to WSTF team members, he asked for questions from the audience. When none were forthcoming, he wanted to talk about the vests that his wife Marta made for him.

"So when your wife makes you something, guys, you wear it!"

Kranz said. "Marta made me a special vest for each mission. I wore them as a symbol to bring the crew together. Since I was on the white team, all my vests were white. After the Apollo missions ended, I tried to help my daughter raise funds for charity. I think we raised about \$50. During the 'Apollo 13' filming, I was asked to mail in the vest so they could duplicate it. How much to insure? \$15,000! That white vest I wore during the Apollo 13 mission is now in the National Air and Space Museum of the Smithsonian."

Kranz has been married to Marta for 55 years, and they have six children. He received a standing ovation at the end of his speech.

PHOTO BY STEVE KOVAR



**Kranz looks over a replica Saturn V rocket as members of the Fellowship of Local Rocketry Enthusiasts stand nearby.**



**The NASA legend leaves his famous "Kranz dictum" on an inner Propulsion Test Office door.**

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